

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Art Unit 2134

Kenneth L. Levy

Confirmation No. 9557

Application No.: 10/017,677

Filed: December 13, 2001

For: FORENSIC DIGITAL
WATERMARKING WITH VARIABLE
ORIENTATION AND PROTOCOLS

Via Electronic Filing

Examiner: P. Poltorak

Date: December 14, 2007

PRE-APPEAL BRIEF REQUEST FOR REVIEW

COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

Appellants request review of the final rejection in the above-identified application. No amendment is being filed with this request.

This request is being filed with a Notice of Appeal.

The review is requested for the reason(s) stated on the attached sheets. (No more than 5 pages are provided.)

Date: December 14, 2007

Respectfully submitted,
DIGIMARC CORPORATION

Customer Number 23735

Telephone: 503-469-4800

FAX: 503-469-4777

By /Joel R. Meyer/
Joel R. Meyer,
Reg. No. 37,677
Attorney for Applicant

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REASONS FOR REQUEST FOR PRE-APPEAL REVIEW

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Sir:

Responsive to the final Office Action dated August 14, 2007, Applicant files herewith an amendment after final, notice of appeal, a request for pre-appeal brief review, and the following reasons for requesting the pre-appeal review.

Claims 1-5, 9 and 21-27 are rejected under 35 U.S.C. Section 112, first paragraph as failing to comply with the written description requirement because the Examiner was unable to find support in the specification for the following claim language: “the orientation specifies a mapping of elements of the message to a pattern of samples in the media content signal.” The specification describes several examples of “a mapping of elements of the message” as claimed. The specification describes embodiments, for example, of a “mapping key” and/or “mapping function.” See, for example, page 3, line 17; page 6, lines 9, 14 and 25; page 9, line 9; and page 10, lines 11 and 13. The example at page 6, line 25 specifically describes an embodiment of a pattern formed by mapping symbols in the message payload of a digital watermark to the host signal via a mapping key. “Symbols” are clearly an example of “elements of the message” as claimed. The passage at page 6, lines 14-16 clearly describes a relationship between message symbols and corresponding samples of the host signal. The example at page 9, lines 9-19 clearly

explains a relationship of the embedding orientation and the mapping key. Since this mapping key is clearly defined as providing a mapping of symbols to samples in the host signal, this particular passage provides additional support for the claim language. These examples are not intended to be an exhaustive listing of support in the specification. Instead, they are non-limiting examples.

In view of the ample support in the specification, the Section 112 rejections of claims 1-5, 9 and 21-27 must be withdrawn and the claims allowed.

Claims 10-14 are rejected under 35 U.S.C. Section 112, second paragraph, because the term, “attempting” of claim 10 is not understood, and it is not clear whether the method requires detection of the digital watermark or not. Applicant respectfully submits that the term “attempting” is clearly understood by those of ordinary skill in the art as the act of attempting to detect the digital watermark. This phrase is understood by one of skill in the art based on the context of the claim itself, the teaching of the specification, and knowledge of the skilled artisan. The phrase is clear in the claim because it is immediately followed by “in response to detecting,” which indicates that detecting occurs. Further, based on the specification, “attempting to detect” is understood to include the act of analyzing a suspect signal to determine whether the digital watermark is present and/or its payload is valid. See, page 1, lines 19-21. The specification describes examples of the act of attempting to detect as including a search for watermark attributes in a suspect signal. See, for example, page 6, line 22, and page 13, line 17. Even if evidence of these watermark attributes is found or estimates of the watermark are calculated, further verification of the presence of the watermark may be required to have a valid detection. The specification describes that error correction may be used to correct errors in the watermark payload caused by corruption of the host signal. See, for example, page 13, lines 24-25, where error correction is performed on combined estimates of watermark bits. Clearly, the specification conveys the concept of “attempting to detect” as a process that can include acts like analyzing a suspect signal for evidence of watermark signal attributes, searching for these watermark attributes, compensating for signal distortion and errors, and dealing with bit errors, to name a few examples.

Claim 10 clearly addresses the question of whether detection of the watermark is required because it recites “in response to detecting the digital watermark, embedding...”

Watermark detecting occurs in order for this act of embedding to occur in response to the detecting of the digital watermark.

The Examiner was not able to ascertain the meaning of “selecting an orientation for the forensic digital watermark signal to be embedded in the content signal based on the digital watermark.” The Examiner’s concern is not clear because paragraph 10 goes on to cite language that is not part of claim 10. At page 11, lines 25-28, the specification provides an example in which an embedder selects a watermark orientation and/or protocol that minimizes interference with an existing watermark detected by detector 302. Though the phrase “mapping of elements of the message” is not recited in claim 10, the specification does provide ample examples of how such mapping may be used to select a watermark orientation that minimizes interference with an existing watermark as claimed. The citations provided above indicate examples of teachings in the specification of how a mapping is used to specify the pattern of watermark elements for each instance of the watermark relative to a known location such as the location of a synchronization component of the watermark.

Claims 10-14 are rejected as being obvious over U.S. Patent No. 6,373,960 to Conover (“Conover”). Conover expressly teaches away from the elements of claim 10 because it teaches that the video stream must be transmitted along with additional information called a site data list, providing data about each watermarking site. This is an inferior solution and does not address the problem that the invention of claim 10 solves because it requires additional computation at the server to include the site data list in the data stream, requires additional bandwidth to transmit this information outside the media content signal, subjects the site data list to easy corruption because it is sent in an area of the stream that is readily stripped and/or corrupted (e.g., by transcoding, analog conversion, and modification by cable and satellite operators) and, even if it does survive transmission, enables a hacker to locate the watermark easily by reading the site list from a portion of the data stream that is separate from the media content signal. In contrast, claim 10 selects an orientation in response to detecting the digital watermark in the host media signal itself. It does not rely on additional processing or additional information provided outside the signal itself as Conover does. As a result, even if additional information transmitted outside and along with a media signal is stripped or modified, the claimed method is still effective because it does not rely on such external information. Moreover, if the host signal is transcoded,

converted to analog, and/or cropped, the digital watermark is still in the host signal and remains usable for selecting orientation of the forensic watermark, regardless of these format changes. Thus, Conover fails to teach or even suggest the claim 10 method, which provides a flexible and robust method for applying a forensic watermark in a manner that does not interfere with other watermarks.

Claims 11-14 are patentable over Conover for at least the reasons provided for claim 10.

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Registration No. 37,677